

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 89-178

SITE CLEANUP REQUIREMENTS FOR

UNISYS CORPORATION AND
MAGNETIC PERIPHERALS, INC.;
AND
JENNY BOSTON PROPERTIES

MAGNETIC PERIPHERALS, INC.
3333 SCOTT BOULEVARD FACILITY
SANTA CLARA, SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board), finds that;

1. Groundwater pollution is present and soil pollution may be present on the dormant property at 3333 Scott Boulevard in the City of Santa Clara in Santa Clara County. Jenny Boston Properties, current owner of the property, and Unisys Corporation (formerly Sperry Corporation) and Magnetic Peripherals, Inc. (formerly a part of Control Data Corporation), former occupants, are hereinafter referred to as the dischargers. For the purposes of this Order, Jenny Boston Properties will be responsible for compliance in the event that Unisys Corporation and Magnetic Peripherals, Inc. fail to comply with the requirements of this Order.
2. The property is a relatively large site, approximately 30 acres in extent, and contains a two-story concrete building complex with 425,404 square feet of space, surrounded by paved parking lots and landscaping, in an area of light industrial and commercial development. See Figure 1.

Groundwater beneath the site has been polluted by volatile organic chemicals (VOCs) such as trichloroethylene (TCE), 1,1,1-trichloroethane (TCA), trans-1,2-dichloroethylene (1,2-DCE), 1,1-dichloroethane (DCA), trichlorofluoromethane (Freon 11), Freon 113, and other VOCs.

3. The site was developed from agricultural land and occupied by Sperry Corporation (Sperry) from August 1978 to April 1983, at which time Magnetic Peripherals, Inc. (MPI), then a division of Control Data Corporation, occupied the site and took over operations from Sperry. Subsequently Sperry became

part of Unisys Corporation (UNISYS). Jenny Boston Properties acquired the property on August 4, 1988 from its predecessor, a partner in Jenny Boston Properties; the partner acquired the property from Sperry on October 25, 1983. The site was used for the assembly of computer disk drives until 1986. It is not used at present, but is maintained by MPI caretaker personnel.

4. Features of the complex included (1) a loading dock and chemical storage building (identified also as chemical or chem shed) located outside the west side of the building, (2) a tank farm area ("Mendocino Tank Farm") on the north side of the building at the northeast corner, (3) two underground diesel storage tanks and one above-ground propane tank on the west side of the building south of the chemical shed, and (4) interior areas of manufacturing and laboratory activities where chemicals were routinely used and industrial wastes were generated. See Figure 2.
5. As reported to Regional Board staff, the chemical storage shed area on the west side contained two large (1,000- or 2,000-gallon) above-ground freon tanks and 55-gallon barrel (drum) quantities of other cleaning solvents. Floor drains in the shed were connected to a 1,080-gallon underground spill containment tank located south of the storage shed. The freon tanks were connected to the chemical-use areas in the main building by underground pipes.

The "Mendocino Tank Farm" area included acid neutralization tanks, a liquid nitrogen tank, an 800-gallon underground waste tank, an acid pit, a caustic pit, and above-ground storage for acids, caustics and solvents including acetone, alcohol, chlorinated hydrocarbons, phenols, toluene, and xylene. The underground waste tank was connected to the building by piping.

6. As part of Santa Clara's Underground Tank Leak Detection Program, five monitoring wells were installed and a subsurface investigation was conducted in December of 1983. See Figure 3. The predominant chemicals detected in groundwater were TCE up to 180 ppb and Freon 113 up to 8,000 ppb in the vicinity of the chemical storage shed (Wells W3 and W4). Well W5 in the vicinity of the tank farm detected TCA at 16 ppb, TCE at 1.7 ppb, Freon 113 at 180 ppb, chloroform at 1 ppb, and methyl ethyl ketone at 40 ppb. Aliphatic hydrocarbons (9 ppb) were detected in groundwater in Well W2 in the vicinity of the diesel storage tanks. No evidence of groundwater pollution was detected in upgradient Well W1 at this time. No VOCs have been detected in Well W1 through February of 1989 with the exception of Trans-1,2-DCE (from 1 to 3 ppb) from October 6, 1986 to December 2, 1987.

Limited soil sampling was done in 1983. Small amounts of ethylbenzene and xylenes were reported from Well W2 at a depth of 2.5 feet, and a small amount of acetone from a depth of 5 feet in Well W5.

Monitoring Wells W2 and W4 were constructed with long intervals, up to 30 feet, of slotted casing. Several individual potential water-bearing zones were covered by the slotted casing in each well. Board staff believes that cross-contamination is a distinct possibility and needs to be evaluated. Another consideration is sample dilution due to long screen lengths and/or multiple screened intervals which will result in reduced concentrations and will not, therefore, result in the collection of representative samples of formation/aquifer fluids.

7. Underground piping was pressure-tested in January and February of 1984. A fluid loss was indicated in the drain line from the chemical shed but not in other lines. All underground tanks and lines were subsequently excavated and removed (dates unknown). The dischargers report that soil sampling was conducted at the time tanks and lines were excavated.
8. Four additional monitoring wells were installed early in 1984. Three of these have 30 feet of perforated or slotted casing, one has 20 feet. Cross-contamination is possible and needs to be evaluated.

Water samples were collected from all nine wells and analyzed. VOCs were detected in the groundwater. TCE and Freon were identified in the chemical storage shed area; TCA, TCE, DCA, Freon 113, Freon 11, and Trans-1,2-DCE were detected in the tank farm area, in Well W5.

9. The dischargers performed a hydrogeologic assessment of the site in 1985. The assessment consisted of an evaluation of existing data and the installation of six additional monitoring wells to complement the nine wells previously installed. The assessment included descriptions of site geology, the groundwater flow regimen and hydraulic characteristics, and water quality.

The near-surface alluvial sediments were subdivided into units identified as silt and clay, or sand and gravel, but were not labeled A and/or B zones. Water-bearing sands and gravels were identified at depth intervals of 10 to 15 and 25 to 35 feet beneath the site. The depth to groundwater ranged from 4 to 10 feet in early 1985. Normal groundwater flow is to the northeast, at a rate of less than one foot per day.

VOC pollution is said to generally extend to a depth of 20 feet below the surface onsite, and to a depth of 40 feet in the chemical shed/loading dock area.

Water is not withdrawn from the shallow alluvium for any use other than VOC removal and monitoring at or in the vicinity of the site. Deeper water-production wells were inventoried by the dischargers within a distance of about one mile downgradient of the site; no drinking water wells were identified. Three potential well locations associated with previous farm buildings or residences were identified by the dischargers from historical aerial photographs. Two of these potential well locations are lateral to and 500 to 800 feet east from the onsite affected area. The third potential location is about 2500 feet north and downgradient from the MPI property north boundary (Figure 5). A well survey conducted by the dischargers in 1987 could not verify the existence of possible wells in these three areas.

10. In August of 1986 a groundwater extraction and treatment system was installed. The dischargers installed seven onsite extraction wells, five in the 10-15-foot interval and two in the 25-35-foot interval, as an interim measure originally, to remove polluted groundwater for treatment by packed tower air-stripping and a carbon adsorption unit prior to discharge to a storm sewer system tributary to Calabazas Creek and South San Francisco Bay. The discharge is authorized by NPDES Permit No. CA0029025. The carbon vessel has been removed from the treatment circuit but is available if needed.

Influent from three extraction-well clusters is piped to the treatment unit outside the northwest corner of the building, where each of the three waste streams is discharged individually into a large open-top tank and mixed with acid for scale control before passing to the air stripper.

A total of 21 wells have been installed onsite. See Figure 4. Two extraction wells (W13 and W14) are not operational because onsite pumping has lowered the water level to a depth beyond the reach of these wells; one monitoring well (W3) has accumulated silt in the bottom of the well, which influenced the decision to install Well W21.

11. Approximately 75,000 gallons per day (gpd) are extracted, treated and discharged at present under current Board Order. (The Order authorizes a discharge of up to 150,000 gpd.) The treatment system has operated almost continuously from August 18, 1986. The effluent has contained minor amounts of Freon 113, TCE, and Trans-1,2-DCE. In 1989 the instantaneous total concentration of VOCs at any time measured in the effluent has been less than the permit limit of 0.100 mg/l daily maximum.

12. Recent (1989) maximum concentrations of some VOCs detected in onsite wells are (parts per billion): Freon 113 at 810 ppb in Well W3; Freon 11 at 12 ppb in Well W20; Trichloroethylene (TCE) at 26 ppb in Well W3; and Trans-1,2-dichloroethylene (T-1,2-DCE) at 99 ppb in Well W19. See Figure 4 for well locations.
13. Freon has migrated offsite and has been detected in monitoring wells (at concentrations below State Action Levels) on the adjacent property directly north and downgradient of the MPI site. In July of 1987 a soil-gas survey indicated a plume of Freon 113 extending downgradient in a north-northeast direction about 1500 feet from the MPI site. See Figure 5. The presence of TCE and TCA north of the freon plume was an isolated case from MPI, according to the report of the survey. It was concluded in this report that no significant VOC concentrations were migrating in shallow groundwater onto the MPI property from the hydraulically upgradient or lateral directions.
14. Fourteen soil-test borings made as part of a preliminary site assessment in August of 1987 reportedly detected the widespread presence of xylenes, toluene, ethylbenzene, chloroform, and methyl isobutyl ketone on the property. One sample showed the presence of TCE. The dischargers had another soil investigation conducted in November and December of 1987. The latter investigation did not confirm the earlier work, and showed an absence of VOCs excepting for Freon 113 in two borings, acetone in one boring and toluene in two borings. The dischargers accepted the results of the latter investigation and rejected the results of the earlier work because the earlier results appeared erroneous. Board staff suggested that the dischargers attempt to determine whether or not the TCE (140 ppb) reported in one boring actually was present. The dischargers collected soil samples from a newly drilled monitoring well (W21) located 10-15 feet from the location of the reported TCE. Analysis showed no TCE or other VOCs in the soil. Staff requested that a sample be collected at the approximate location of the reported TCE. Analysis of this sample showed the presence of 300 ppb TCE in soil at a depth of almost six feet. This indicated to Board staff that the picture of VOCs in soil was incomplete, and that higher concentrations of TCE and other VOCs may be present in soil.
15. Trans-1,2-dichloroethylene was detected (April-June 1989) in Well W18 at 2.5 to 5.5 ppb and in Well W19 at 56 to 99 ppb. The last reported analysis of a water sample from Well W5 showed 23 to 37 ppb of T-1,2-DCE (March 1989).
16. The dischargers do not believe that VOC concentrations can be reduced to background levels due to chemical desorption of

VOCs from soil into groundwater.

17. The dischargers have recommended in the report of April 14, 1989 that the groundwater extraction system be operated through the end of September, 1989 and then be shut down. The statement is made that further groundwater extraction/treatment should not be necessary unless VOCs migrating from the site significantly exceed the State Action Levels.
18. Board staff concludes that:
 - a. VOCs are present in soils but the distribution and extent are not known. Staff cannot determine at this time whether or not soil remediation is necessary or feasible. More data is needed for the staff to make this determination.
 - b. The VOCs of major concern are Trans-1,2-dichloroethylene (T-1,2-DCE), a noncarcinogen, and Trichloroethylene (TCE), a carcinogen. Other VOCs identified onsite in 1989 are 1,1-DCA (carcinogen), 1,1,1-TCA (noncarcinogen), Freon 113 (noncarcinogen), and Freon 11 (noncarcinogen), Chloroethane has also been identified. The continued removal of VOCs to remediate groundwater pollution is necessary because VOC concentrations exceed levels which are protective of human health and the environment.
 - c. Trans-1,2-DCE is being detected onsite at wells some distance apart -- W5, and W18 and W19 (Figure 4 and Finding 15). In the recent past this VOC has also been reported in samples from Wells W1 and W10. The source area(s) for this VOC has not yet been identified by the dischargers. The distribution and extent of this VOC needs to be more adequately addressed.

The source area for the other VOC of major concern, TCE, has tentatively been identified as the chemical storage shed/building area in the western part of the site. TCE is being detected in interior Wells W3, W4, W10, W18, and W19. It was also being detected in Well W14 when it was possible to collect samples from this well (until early 1986). TCE has also been detected recently in Well W20, at the site northern boundary (Figure 4). And, TCE has also been detected offsite to the north, within and adjacent to the pollutant plume mapped as a Freon-113 plume (Finding 13). Staff is not certain that "the presence of TCE and TCA north of the freon plume was an isolated case from MPI", as originally reported.

- d. Site cleanup should continue until specified objectives protective of human health and the environment are achieved.
- 19. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives for Calabazas Creek and South San Francisco Bay.
- 20. The existing and potential beneficial uses of the groundwater underlying and adjacent to the property include:
 - a. Industrial process water supply
 - b. Industrial service supply
 - c. Municipal and domestic supply
 - d. Agricultural supply
- 21. The existing and potential beneficial uses of the surface water of Calabazas Creek include:
 - a. Agricultural supply
 - b. Groundwater recharge
 - c. Navigation
 - d. Contact and non-contact water recreation
 - e. Warm and cold fresh water habitat
 - f. Wildlife habitat
- 22. The dischargers have caused or permitted, and threaten to cause or permit waste to be discharged or deposited where it is or probably will be discharged to waters of the State and creates or threatens to create a condition of pollution or nuisance.
- 23. This action is an order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of the CEQA pursuant to Section 15321 of the Resources Agency Guidelines.
- 24. Interim containment and cleanup measures need to be implemented and/or continued to alleviate the threat to the environment posed by the continued migration of the groundwater plume of organic solvents and to provide a substantive technical basis for designing and evaluating the effectiveness of final cleanup alternatives.
- 25. The Board has notified the dischargers and interested agencies and persons of its intent under California Water Code Section 13304 to prescribe Site Cleanup Requirements for the discharge and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.

26. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the dischargers shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous materials in a manner which will degrade water quality or adversely affect the beneficial uses of the waters of the State is prohibited.
2. Further significant migration of pollutants through subsurface transport to waters of the State is prohibited.
3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of pollutants are prohibited.

B. SPECIFICATIONS

1. The storage, handling, treatment or disposal of polluted soil or groundwater shall not create a nuisance as defined in Section 13050(m) of the California Water Code.
2. UNISYS and MPI shall conduct further reporting, site investigation and monitoring activities as needed and as described in this Order. Results of such monitoring activities shall be submitted to the Board. Should monitoring results show evidence of plume migration, additional plume characterization may be required. Within 60 days of the Executive Officer's determination and actual notice to Jenny Boston Properties that UNISYS and MPI have failed to comply with this Order, Jenny Boston Properties, as landowner, shall comply with this Order.
3. Final cleanup levels for polluted groundwater shall be background water quality if feasible, but shall not be greater than the DHS drinking water Action Level (AL) or Maximum Contaminant Level (MCL), whichever is more stringent. If an AL or MCL has not been established, the level shall be in accordance with the State Water Resources Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California", based on an evaluation of the cost, effectiveness and a risk assessment to determine effect on human health and the environment, and shall be approved by the Regional Board. These levels shall have a goal of reducing the mobility, toxicity, and volume of pollutants.

4. If it is determined by the Executive Officer that polluted soils need to be remediated, the cleanup goal is 1 ppm for total VOCs. This goal may be modified by the Executive Officer if the dischargers demonstrate with site specific data that higher levels of VOCs in the soil will not threaten the quality of waters of the State or that cleanup to this level is infeasible and human health and the environment are protected.
5. The dischargers shall optimize, with a goal of 100%, the reclamation or reuse of groundwater extracted as a result of cleanup activities. The dischargers shall not be found in violation of this Order if documented factors beyond the dischargers' control prevent the dischargers from attaining this goal, provided the dischargers have made a good faith effort to attain this goal.
6. The dischargers shall implement a cleanup plan acceptable to the Executive Officer.

C. PROVISIONS

1. UNISYS and MPI shall perform all investigation and remedial work in accordance with the requirements of this Order. For the purposes of enforcing this Order, Jenny Boston Properties shall be responsible for achieving full compliance in the event that UNISYS and MPI fail to comply with the requirements of this Order.
2. The dischargers shall submit to the Board acceptable monitoring program reports containing results of work performed according to a program prescribed by the Board's Executive Officer.
3. The dischargers shall comply with all Prohibitions and Specifications of this Order, in accordance with the following time schedule and tasks:

COMPLETION DATE/TASK:

a. GROUNDWATER CONSERVATION

1) COMPLETION DATE: June 29, 1990

TASK 1: PLAN FOR DISPOSAL OF EXTRACTED GROUNDWATER. If required by the Executive Officer, submit a technical report acceptable to the Executive Officer describing the groundwater disposal plan associated with attaining the site cleanup objective. This report shall include documentation of efforts to comply with the Regional Board Resolution No. 88-160, "Regional Board Position on the Disposal of Extracted

Groundwater From Groundwater Cleanup Projects", and reasons, if applicable, why potential users would not accept the water and justification for reasons why the water, with or without onsite treatment, cannot be used for beneficial purposes or be returned to the aquifer.

2) COMPLETION DATE: June 29, 1990

TASK 2: PROPOSAL FOR GROUNDWATER RECLAMATION. Submit a technical report acceptable to the Executive Officer which includes alternative proposals for reclamation of extracted groundwater, including the feasibility of onsite treatment to make the water suitable for beneficial uses. This report shall evaluate the feasibility, including cost estimates, of reusing the water and/or returning it to the source-aquifer, and shall include an implementation schedule for reclamation measures. This requirement is waived if it can be documented that groundwater reclamation is infeasible or unnecessary.

3) COMPLETION DATE: August 31, 1990

TASK 3: GROUNDWATER RECLAMATION. Submit a technical report acceptable to the Executive Officer documenting completion of tasks necessary to implement groundwater reclamation. This requirement is waived if the Executive Officer has determined that groundwater reclamation is infeasible or unnecessary.

b. CONTINUATION OF SITE INVESTIGATION

1) COMPLETION DATE: February 28, 1990

TASK 4: TRANS-1,2-DCE POLLUTION. Submit a technical report acceptable to the Executive Officer which describes the horizontal and vertical extent of Trans-1,2-DCE pollution in groundwater at this site. Evaluate the presence of this VOC based on the historical record of chemical analyses. Include a discussion of possible sources of this VOC, and the influence of site geology and hydrology on the occurrence and distribution of this VOC. This report shall contain maps and cross-sections which illustrate the distribution of this VOC.

The report shall include a discussion of the distribution and extent of TCE in the groundwater onsite and offsite as related to the Freon-113 pollutant plume identified extending downgradient from the MPI north property boundary.

The report shall also include a consolidation of previous soil quality data in the areas of the former chemical storage and handling facilities at the site. These data shall include submittal and discussion of previous soil sampling results that were obtained at the time underground tanks and sumps were removed. If necessary, additional soil data will be

obtained in the former chemical storage and handling areas to infill any data gaps that may exist, and will be included in the technical report.

2) COMPLETION DATE: February 28, 1990

TASK 5: RISK ASSESSMENT. Submit a technical report acceptable to the Executive Officer which presents an assessment of risks to public health and the environment due to the presence of VOC pollutants in the groundwater and soil, pursuant to CERCLA guidelines for conducting a Risk Assessment.

3) COMPLETION DATE: February 28, 1990

TASK 6: SUMMARY OF PREVIOUS SITE CHARACTERIZATION INVESTIGATIONS. Submit a technical report acceptable to the Executive Officer which includes:

- (a) A summary of all previous onsite soil sampling investigations.
- (b) A summary of previous soil-gas and groundwater investigations onsite and offsite which includes contoured pollutant concentration maps of T-1,2-DCE, TCE, and Freon 113 and a discussion of the presence of all VOCs which have been identified onsite and/or as related to the offsite plume.
- (c) A discussion of correlative geology which attempts to correlate the subsurface geologic units at this site with the A, B, and/or C units at nearby sites, with appropriate illustrations. This discussion shall assess the potential for pollutants (VOCs) in shallow water-bearing units to migrate vertically downward to deeper units.
- (d) A discussion which evaluates the possibility of cross-contamination due to the construction of onsite extraction and monitoring wells; and the effects of dilution due to large screened or slotted intervals on the concentrations of pollutants in water samples collected for analyses. The report shall include a review of the construction of all onsite wells, and identification of any well for which data is based upon sampling from multiple-screened intervals and a potential for cross-contamination exists. Where the potential for cross-contamination does exist, the report shall recommend an appropriate corrective action(s) and provide a time schedule for implementation, for each identified well. If wells are to be abandoned, the

report should include a proposal for the proper destruction of wells.

- 4) COMPLETION DATE: June 29, 1990 or 60 days prior to a proposed date to implement onsite well pumping curtailment, whichever comes first

TASK 7: ASSESSMENT OF EXTRACTION SYSTEM. Submit a technical report acceptable to the Executive Officer which assesses the operation of the extraction system. This report shall include but not be limited to an assessment of:

- (a) Boundary site conditions when pumps are on compared to conditions when pumps are permanently off. The assessment should describe the movement of groundwater in the upper 20 feet of sediments and/or the interval containing the VOC pollution, across the north (downgradient) property boundary; and should use accepted hydrogeologic procedures to estimate/calculate the volume, rate or quantity of water leaving the property with and without boundary wells pumping, and the concentrations of VOCs therein. The report should use site specific data to show how operations of the boundary extraction wells prevent pollutants from leaving the site, and describe factors which affect the efficiency of the operation of these wells.

The report should evaluate boundary site conditions of groundwater movement and pollution migration if (1) all extraction is terminated, (2) only interior extraction is terminated, and (3) only boundary extraction is terminated, and compare these evaluations to present conditions when groundwater is being extracted by both boundary and interior wells.

The report should include contoured water table and VOC concentration maps and other illustrations; and all assumptions and relevant calculations.

- (b) Various pumping rates of individual extraction wells, using documented engineering principles to explain how the pumping rates which are utilized onsite accomplish cleanup objectives and are efficient, without being wasteful of the water resource.

The assessment should include a description of the basis for determining which wells are pumped when, at what pumping rates and for what time periods.

- (c) The waste stream collection system. The report should describe the configuration of the waste stream collection system, including wells in each cluster, the commingling of streams at or near wellheads in each cluster, and the discharge of waste streams into the mixing tank; and should quantify the volumes and concentrations of all pollutants in individual waste streams beginning with the contribution of each well.
- (d) Proposed modification(s) of the extraction system. A proposal for modifications shall be approved by the Executive Officer prior to implementation. The proposal shall include tasks and a time schedule for implementation of modifications of or to the extraction system. A proposal to curtail pumping shall be submitted pursuant to Task 9.

c. CLEANUP PLAN

- 1) COMPLETION DATE: October 30, 1990

TASK 8: PROPOSED FINAL REMEDIATION PLAN. Submit a technical report acceptable to the Executive Officer which contains a plan to continue the ongoing remedial actions and/or the recommended measures necessary to achieve final cleanup objectives, and the tasks and time schedule necessary for continuation of the existing actions and/or to implement and recommend final remedial measures, including a monitoring program to demonstrate that objectives are being met; or documents that the continuation of remedial action is not necessary. The plan shall also address whether any further soil remediation is required.

- 2) COMPLETION DATE: 60 days prior to action date

TASK 9: ONSITE WELL PUMPING CURTAILMENT CRITERIA AND PROPOSAL. If it is documented in Task 8 that further groundwater remediation is not necessary, and concurred in by the Executive Officer, or if onsite well pumping curtailment is contemplated for any reason, submit a technical report acceptable to the Executive Officer containing a proposal for curtailing pumping from groundwater extraction wells and the criteria used to justify such curtailment. This report shall include data to show that cleanup goals for all VOCs have been achieved and have stabilized or are stabilizing, and that the potential for pollutant levels rising above cleanup goals is minimal. This report shall also include an evaluation of the potential for pollutants to migrate downward to deeper aquifers if extraction is curtailed. A proposal shall be approved by the Executive Officer prior to implementation.

If, after a good-faith effort the dischargers determine that it is not feasible to achieve cleanup goals, the report shall evaluate the alternate goals that can be achieved, and recommend a final alternative goal for each VOC.

- 3) COMPLETION DATE: 30 days following completion of action

TASK 10: ONSITE WELL PUMPING CURTAILMENT. Submit a technical report acceptable to the Executive Officer documenting completion of the necessary tasks identified in the technical report submitted for Task 9.

d. STATUS REPORT

- 1) COMPLETION DATE: Five years after adoption of this Order.

TASK 11: STATUS REPORT AND EFFECTIVENESS EVALUATION. Submit a technical report acceptable to the Executive Officer containing the following: (1) results of any additional investigation including a soil remediation study; (2) an evaluation of the effectiveness of installed final cleanup measures and cleanup costs; (3) additional recommended measures to achieve final cleanup objectives and goals, if necessary; (4) a comparison of previous expected costs with the costs incurred and projected costs necessary to achieve cleanup objectives and goals; (5) the tasks and time schedule necessary to implement any additional final cleanup measures; and (6) recommended measures for reducing Board oversight. This report shall also describe the reuse of extracted groundwater, evaluate and document the removal and/or cleanup of polluted soil. If safe drinking water levels have not been achieved onsite and are not expected to be achieved through continued groundwater extraction and/or soil remediation, this report shall also contain an evaluation addressing whether it is technically feasible to achieve drinking-water quality onsite, and if so, a proposal for procedures to do so.

4. The submittal of technical reports evaluating proposed interim and final remedial measures will include a projection of the cost, effectiveness, benefits and impact on public health, welfare and environment of each alternative measure. A remedial investigation and feasibility study must be consistent with guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300); CERCLA guidance documents with reference to Remedial Investigations, Feasibility Studies and Removal Actions; and the State Water Resources Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California".

5. Any proposal for the discharge of extracted groundwater included in the technical report required in Task 8 must initially consider the feasibility of reclamation or discharge to a publicly owned treatment works (POTW), as specified in Board Resolution No. 88-160. If it can be demonstrated that reclamation or discharge to a POTW is technically and economically infeasible, a proposal for discharge to surface water shall be considered. The completion of Tasks 2 and 3 can satisfy the requirements of this Provision to consider groundwater reclamation or discharge to a POTW.
6. If the dischargers are delayed, interrupted or prevented from meeting one or more of the completion dates specified in this Order, the dischargers shall promptly notify the Executive Officer. In the event of such delays, the Board may consider modification of the task completion dates established in this Order.
7. Technical reports on compliance with the Prohibitions, Specifications, and Provisions of this Order shall be submitted monthly to the Board commencing with the December 1989 report due January 15, 1990 and for a period of three months thereafter, then quarterly beginning with the report for the April-June 1990 quarter due August 1, 1990. These reports shall consist of a brief letter report that (a) summarizes work completed since submittal of the previous report, and work projected to be completed by the time of the next report, (b) identifies any obstacles which may threaten compliance with the schedule of this Order and what actions are being taken to overcome these obstacles, and (c) includes, in the event of non-compliance with Provisions of this Order, written notification which clarifies the reasons for non-compliance and which proposes specific measures and a schedule to achieve compliance. This written notification shall identify work not completed that was projected for completion, and shall identify the impact of non-compliance on achieving compliance with the remaining requirements of this Order.
8. In addition to the report required in Provision 7 the dischargers shall submit a quarterly technical report commencing with the October through December 1989 quarterly report due February 1, 1990. The quarterly technical report shall include, but need not be limited to, updated water table/piezometric surface contour maps, pollutant concentration contour maps for all affected water-bearing zones, geologic cross-sections describing the hydrogeologic setting of the site, and appropriately scaled and detailed base maps showing the locations of all monitoring and extraction wells, and identifying adjacent facilities and structures. The above information will be generated on a quarterly basis.

On an annual basis, technical reports on the progress of compliance with all requirements of this Order shall be submitted, commencing with the report for 1989, due February 1, 1990. The annual report may be combined with other technical report(s) which are due to be submitted on February 1, 1990. The progress reports shall include, but need not be limited to, an evaluation of the effectiveness of the cleanup actions/systems and the feasibility of attaining groundwater and soil cleanup goals.


9. All hydrogeological plans, specifications, reports and documents shall be signed by or stamped with the seal of a registered geologist, registered civil engineer, or certified engineering geologist.
10. All samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control records for Board review.
11. The dischargers shall maintain in good working order, and operate as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this Order.
12. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order shall be provided to the following agencies:
 - a. Santa Clara Valley Water District
 - b. Santa Clara County Health Department
 - c. City of Santa Clara
 - d. State Department of Health Services/TSCD

The Executive Officer shall receive one complete copy of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order, and may require additional copies be provided to the U.S. Environmental Protection Agency, Region IX, and to a local repository for public use.

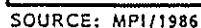
13. The dischargers shall permit the Board or its authorized representative, in accordance with Section 13267 (c) of the California Water Code:
 - a. Entry upon dischargers' premises in which any pollution sources exist, or may potentially exist, or in which any required records are kept, which are relevant to this Order.

- b. Access to copy any records required to be kept under the terms and conditions of this Order.
 - c. Inspection of any monitoring equipment or methodology implemented in response to this Order.
 - d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.
14. The dischargers shall file a report on any changes in site occupancy and ownership associated with the facility described in this Order.
15. If any hazardous substance is discharged in or on any waters of the State, or discharged and deposited where it is, or probably will be discharged in or on any waters of the State, the dischargers shall report such a discharge to this Board, at (415) 464-1255 on weekdays during office hours from 8 a.m. to 5 p.m., and to the Office of Emergency Services at (800) 852-7550 during non-office hours. A written report shall be filed with the Board within five (5) working days and shall contain information relative to: the nature of the waste or pollutant, quantity involved, duration of incident, cause of spill, Spill Prevention, Control and Countermeasure Plan (SPCC) in effect, if any, estimated size of affected area, nature of effects, corrective measures that have been taken or planned, and a schedule of these activities, and persons notified.
16. Within sixty (60) days of the Executive Officer's determination and actual written notice to Jenny Boston Properties that UNISYS and MPI have failed to comply with the Provisions of this Order, Jenny Boston Properties, as landowner, shall comply with this Order.
17. The Board will review this Order periodically and may revise the requirements when necessary.

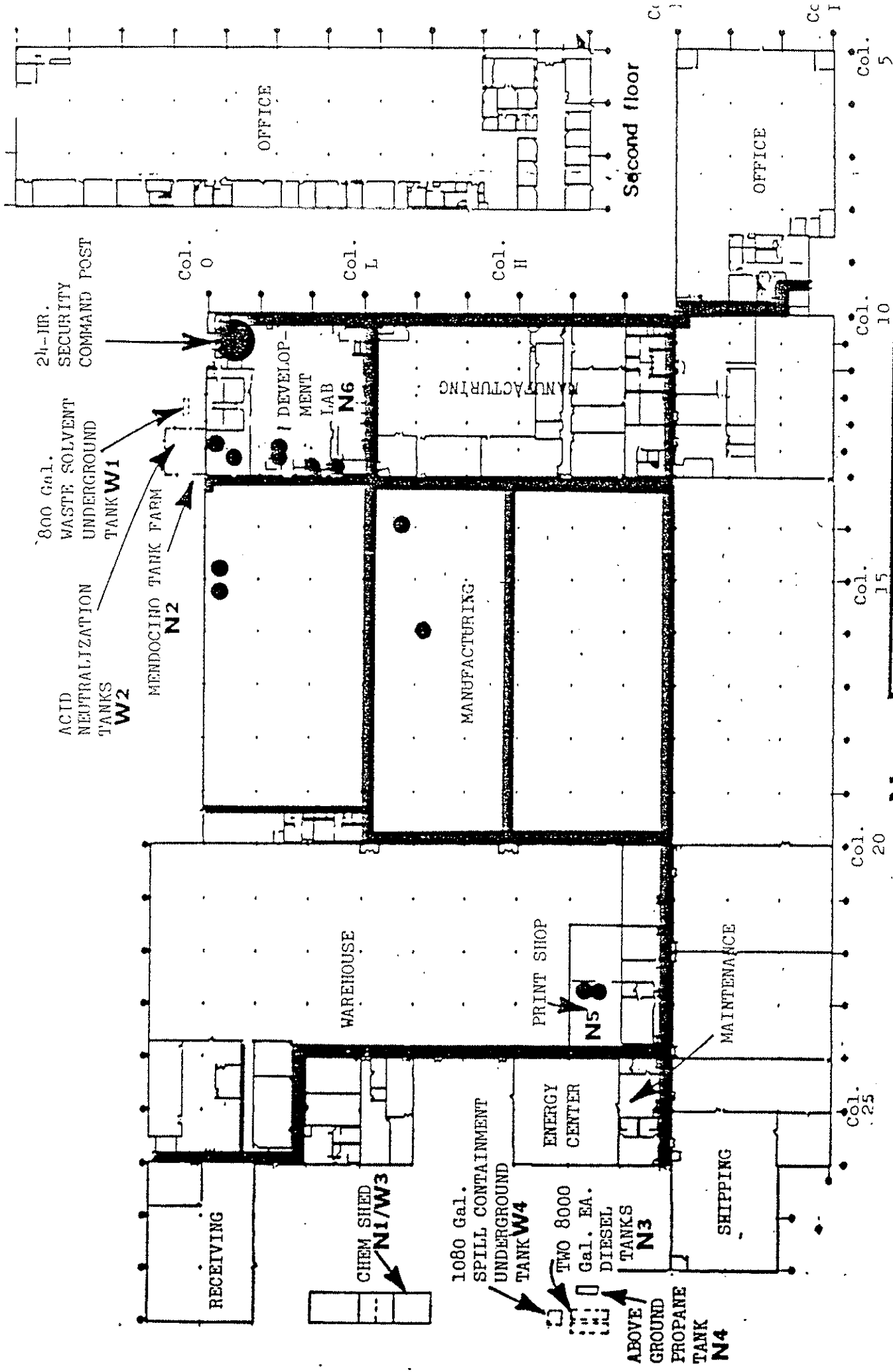
I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on November 15, 1989.



Steven R. Ritchie
Executive Officer



Project No. 1085



GD MAGNETIC PERIPHERALS INC.

a Control Data Company

Route One, Oak Grove, Illinois
3133 Scott Boulevard
Manning Avenue, P.O. Box 207
Saddle Creek, California 95061

FIGURE 2

Facility Storage Map

SCALE: 1" = 10'

DATE: 11/1/78

RECEIVING

CHEM SHED
N1/W3

1080 Gal.
SPILL CONTAINMENT
UNDERGROUND
TANK W4

TWO 8000
Gal. EA.
DIESEL
TANKS
N3

ABOVE
GROUND
PROPANE
TANK
N4

WAREHOUSE

PRINT SHOP
N5

ENERGY
CENTER

SHIPPING

MAINTENANCE

MANUFACTURING

DEVELOPMENT
LAB
N6

OFFICE

OFFICE

SECURITY
COMMAND POST

24-HR.
SECURITY
COMMAND POST

Col. 25

Col. 20

Col. 15

Col. 10

Col. 5

Col. 0

Col. L

Col. H

MAIN AISLES

FLAMMABLE/ACID CABINETS

NEW CHEMICALS

WASTE CHEMICALS

Col. 25

Col. 20

Col. 15

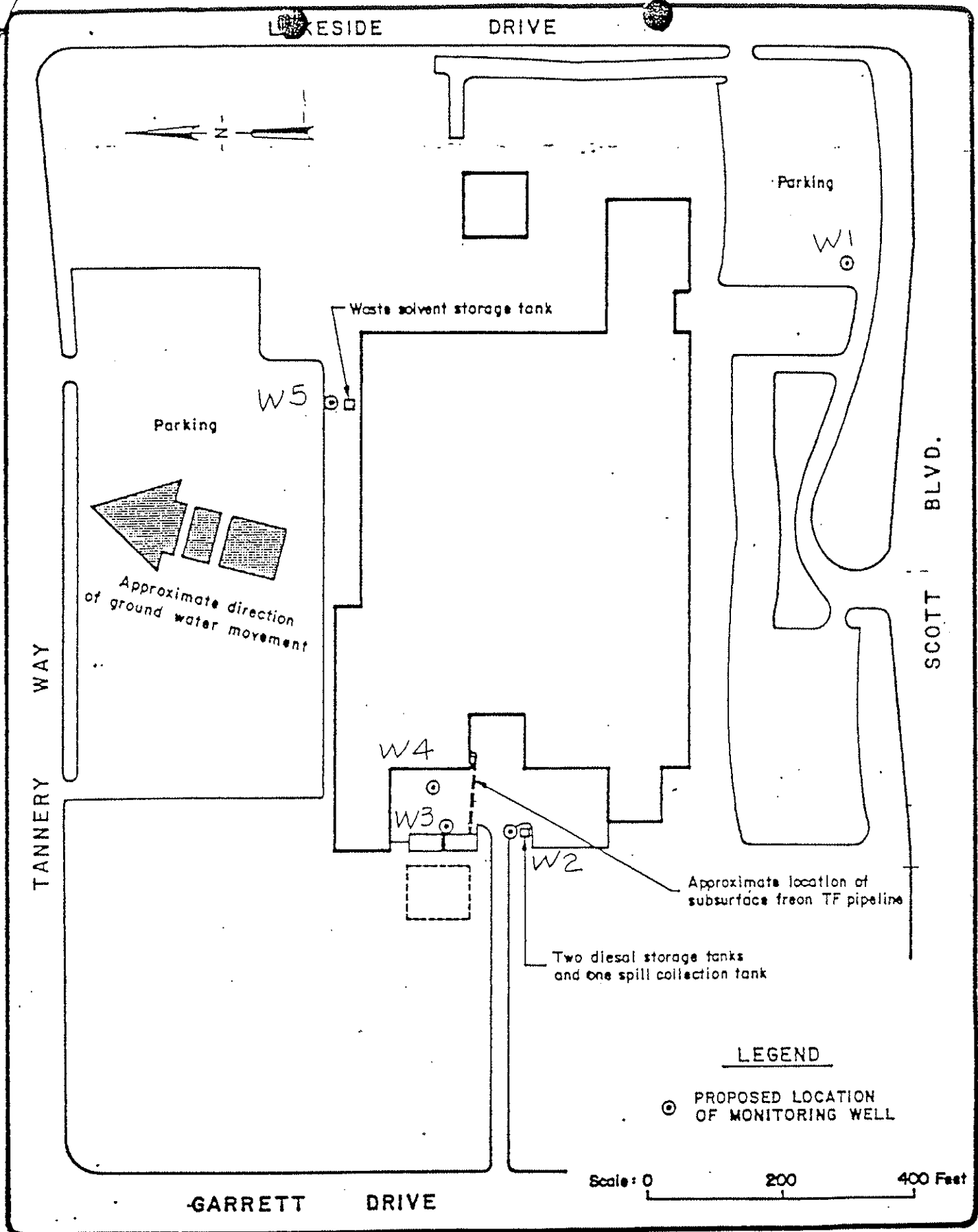
Col. 10

Col. 5

Col. 0

Col. L

Col. H



Emcon
Associates
San Jose, California

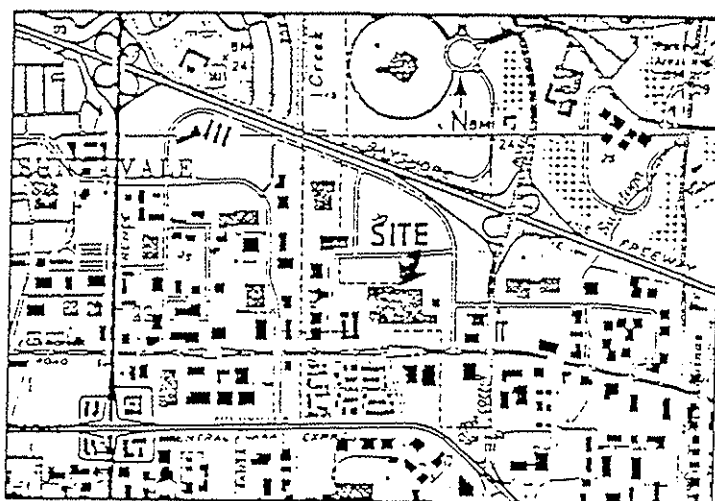
MAGNETIC PERIPHERALS INC.
SANTA CLARA, CALIFORNIA

MONITORING WELL LOCATION MAP

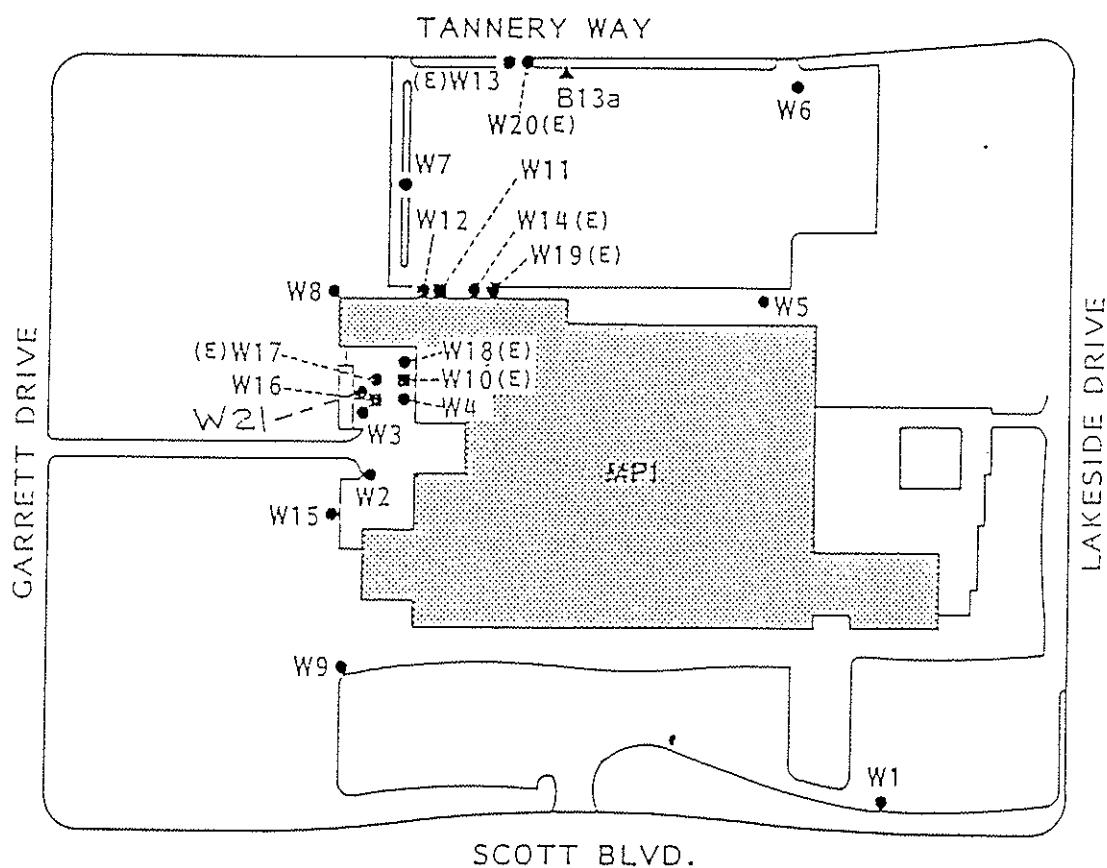
FIGURE

3

PROJECT NO.
471-1.1



LOCATION MAP

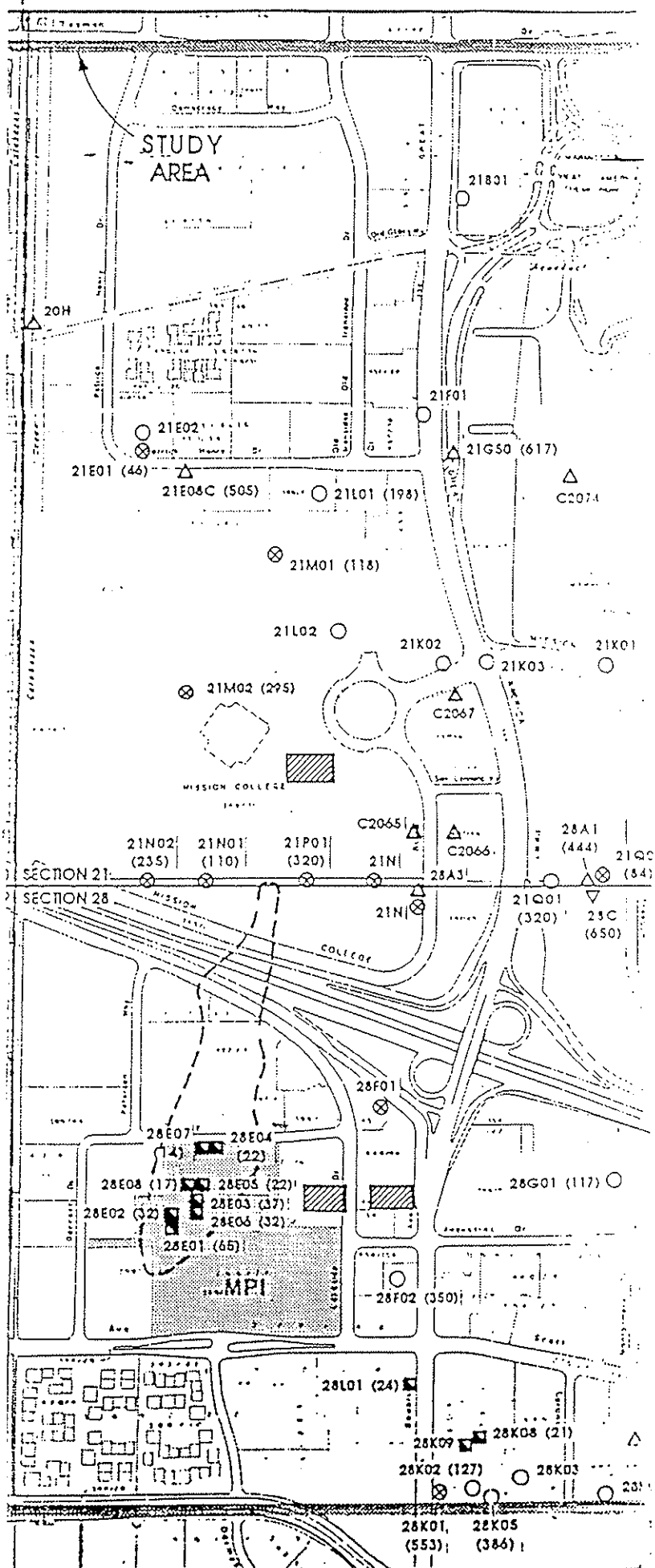


EXPLANATION

- Shallow monitoring well
- Deeper monitoring well
- (E) Ground-water extraction well
- ▲ Soil boring

NOTE: Wells 2, 4, 7, 8 and 9
are perforated in
multiple zones.

Figure 4 : SITE PLAN WITH MONITORING AND EXTRACTION WELL LOCATIONS



EXPLANATION

- ⊗ Well sealed under Santa Clara Valley Water District Permit
- Abandoned well
- Active well exclusive of ground-water monitoring on extraction wells
- ▽ Test boring, status unknown
- △ Vicinity of well, status unknown
- Extraction well
- ▣ Monitoring well
- 20G13 Equivalent to well number 6S1W20G13 (612) (well depth in feet)
- W19 Approximate location of well from: Weiss Associates, 1986. Possible well locations selected parts of Santa Clara Valley, California.
- 5-E-47 Approximate location of well from: Hyatt, E., 1933. Santa Clara Investigation: Division of Water Resources Bull. No. 42.
- C1874 Approximate location of well from: Clarke, W.O. 1924. Groundwater in Santa Clara Valley California: USGS Water Supply Paper 519.
- ▨ Farm buildings noted from historical aerial photographs
- Approximate limit of Freon 113 in the soil-gas greater than 0.1 µg/l of air

(From: Levine-Fricke, Inc., 1987, Volatile Organic Compounds in Soil-Gas at the Magnetic Peripheral, Inc. Facility, Santa Clara, California, August 20, 1987)

0 500 1000 2000 3000 feet

Figure 5:
MAP OF STUDY AREA
AND WELL LOCATIONS

Project No. 1085

LEVINE-FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

SEP87CY

SOURCE: County of Santa Clara Plans